

Blind and Visually Handicapped Children and Youth
Educational Implications

Part Three: Curricular Considerations

Chapter Sixteen: Curricular Adaptations

Section C: Social Studies

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Curricular Adaptations

Social StudiesDefining the Social Studies

What are the social studies? Where are their roots? What are their goals? How are they taught? What problems are encountered by visually handicapped students studying them?

Social studies is defined in the Webster's New World Dictionary (1982) as "a course of study, esp. in elementary and secondary schools, including history, civics, geography, etc." (p. 1352). It is defined similarly in The American Heritage Dictionary (1982) as "a course of study including geography, history, government, and sociology, taught in secondary and elementary schools" (p. 1160). Webster codes the term as an Americanism, meaning it originated or first came into use in this country. According to Barr, Barth, and Shermis (1977), "the most enduring definition was developed by Edgar Wesley some forty years ago. 'The Social Studies' said Wesley, 'are the social sciences simplified for pedagogical purposes'" (pp. 1-2). Later in the text, the authors propose their own definition which states, "The social studies is an integration of experience and knowledge concerning human relations for the purpose of citizenship education" (p. 69).

Barr, Barth, and Shermis (1977), in a National Council for the Social Studies publication, trace the history and development of social studies. They report social studies to be a relatively new

and evolving discipline having its early roots in history. It was not until after 1900 that social scientists formally broke away from historians to form their own separate disciplines.

Coursework prescribed by the different states for social studies varies. Nevertheless, a common theme found includes geography (state, United States, world), history (state, United States, world), and government/civics (state, United States, world). Other courses sometimes required or offered as electives at the secondary level include anthropology, archeology, career education, citizenship, conservation, consumer education/economics, culture, economics, humanities, international relations, law, minority studies, psychology, religion, and sociology. The sequence of study generally moves from focusing on home/family to school, neighborhood, community/city, state/region, United States/nations, hemisphere, and the world (National Survey, 1976).

How They Are Taught

It is immediately apparent that a course of study including as wide an array of subjects as social studies must, by its very nature, lend itself to virtually all teaching techniques. However, according to Barr, Barth, and Shermis (1977), three distinct social studies teaching traditions have evolved and are currently in use. These include transmission, discovery, and reflective inquiry. Each addresses citizenship as its goal. The three traditions, respectively, and their purposes are:

1. The Social Studies Taught as Citizenship Transmission

Citizenship is best promoted by inculcating right values as a framework for making decisions.

2. Social Studies Taught as Social Science

Citizenship is best promoted by decision making based on mastery of social science concepts, processes, and problems.

3. Social Studies Taught as Reflective Inquiry

Citizenship is best promoted through a process of inquiry in which knowledge is derived from what citizens need to know to make decisions and solve problems. (p. 67)

Special Concerns for Visually Handicapped Students and Their Teachers

Students who are visually handicapped should have no inordinate problems handling the verbal content of social studies curricula regardless of the media they use (braille, recordings, large type, regular type with or without magnification) for text materials. Generally, the verbal content of social studies courses can be "taken in stride." However, commonly used nonverbal formats often present major problems--particularly for those who require tactile materials. A review of two 1982 social studies textbook series available in both braille and large type (Scott Foresman [for grades 2 through 6] and Tiegs-Adams Series [for grades 3 through 6]) showed extensive use of pictures, maps, globes, graphs, and diagrams. Such graphic presentations are common to social studies textbooks at all levels and are effective ways of presenting information to sighted

students, but are often obstacles to communication for visually handicapped persons. Social studies, more than any other curricular area, employs the use of graphics. Therefore, it is this pervasive concern to which teachers of visually handicapped students studying social studies must be most vigilant.

The blind (tactual) student. Nolan and Morris (1971) conducted a series of studies relating to tactile maps and their use. One objective of the project was to develop a pilot training program to teach blind students to use tactile maps. The authors found an existing vicious circle of problems in teaching the geographic component of social studies curricula. It was that, due to lack of design information, tactile maps often have poor legibility; therefore, teachers do not use them widely nor teach their students how to read them; therefore, blind students do not learn basic geographic concepts and map reading skills; therefore, attempts to improve the design of tactile maps are frustrated because the students with whom they must be tried lack the concepts and skills needed to use the new designs. Franks and Nolan (1970) documented the severe deficit existing for this group in knowledge of geographic terms and concepts. Although researchers have addressed questions of tactual perception, map design, symbol legibility, means of producing better quality maps, and training techniques during the ensuing years, those problems previously identified are still prevalent.

Nevertheless, the need for tactile maps should not be ignored nor their value diminished. Brambring (1977) evaluated three ways of conveying information from maps to blind persons. These were (a) use of a tactile map, (b) use of a verbal description of a map, and (c) a combination of the two. Results indicated both methods employing use of tactile maps were more effective than just a verbal description. Similar findings were reported by Nolan (1966) and Morris and Nolan (1970). Using structured interview techniques to elicit information from legally blind students who customarily used recorded text materials, 38% of those in the earlier study stated they found descriptions of graphics of little or no use and usually skipped them while 35% said they found it necessary to use supplemental materials, usually the braille or print edition of the text. In the latter study, legally blind college level students were unanimous in finding recorded graphics inadequate. Of this group 61% stated a preference for having graphics in written form.

Information related to design and use of tactile graphics is provided by Berlá (1982). In an excellent review of pertinent research he assimilates and discusses the research of physical features contributing to symbol legibility and identifies design considerations that contribute to tactile clarity. These include size, figure-ground features, orientation of shapes, use of symmetrical vs. asymmetrical figures, and redundancy of tactile stimuli. He notes that other research on use of tactile maps points out the critical need for

such users to have basic map reading concepts (e.g., that maps represent real things and spatial and time-distance relationships) and the value of perceptual-motor skills training as it relates to reading tactile displays.

Franks (1983) reviewed research relating to tactile maps and graphics to determine guidelines for tactile map design and related training materials. These data based guidelines address complexity of design, use of symbols, spacing between symbols and patterns, the need for tactile edges, the value of stimulus redundancy and scanning.

Closely related to the problems blind students have with tactile maps are their problems with tactile graphs. Barth (1983b), in reporting research on tactile graphics, noted the paucity of attention given to graphic interpretation training, particularly for graphs.

Several factors are basic to the problems blind students have with social studies curricula. One of the problems is the geographic content of the curricula with its intrinsic reliance on maps and globes. Another is the pervasive use of graphs and diagrams in textbooks to relate data and other information. A third is the common use of tables, the braille to print ratio of which may be as much as 6 to 1, meaning a table may extend over several pages. The implications for their teachers are not to be taken lightly. First, and at an early age, blind students need to be taught the

basic concepts necessary for map use. This is also critical for orientation and mobility training. Second, students will need specific training to help them attain geographic concepts necessary for understanding what maps portray. Sighted people look at a river and gain the concept. For blind people it is not so easy. Third, students will need to be taught how to read maps and other graphic materials. For instance, they will need to be taught to explore graphics systematically and thoroughly and how to follow an unwieldy table from page to page. But, probably the most demanding of the implications for teachers are the needs their students will have for them to provide tactile graphics where not otherwise available. This means teachers will need to learn how to design and create such. Fortunately, materials and tools are available to help.

The low vision student. Graphics found in regular print editions of social studies textbooks are often large enough to enable the student with low vision to use them with or without low vision aids. Additionally, they frequently are printed in bright colors which contribute to their visibility. Nevertheless, it is not possible to generalize that all low vision students will be able to use them nor that any one student will be able to use all graphics. Whether using the regular print edition of a textbook or the large type edition, this is a concern. Visual ability will vary over the entire range possible between students and may vary within the same student from time to time. Some students will be

able to see only small parts of a graphic at a time and may have trouble gaining the gestalt. Consequently, a teacher must be alert to the needs for assistance low vision students may have and be aware that most will require more time to use graphics and tables than will their normally sighted peers.

A technique a teacher can use to monitor students is to periodically review selected graphics with them. By asking pertinent questions and directing use, a teacher can determine the student's level of skill and learn whether the student is able to see the graphic well enough to use it. Another advantage to directed use is it can help a student who is having trouble putting the pieces together form the gestalt.

Even though students will undoubtedly be using whatever optical aids or low vision devices they normally use, on occasion it may be necessary for a teacher to enlarge either part or all of a graphic or to redraw it for greater clarity. When redrawing, general rules would be to enlarge it, to eliminate all nonessential elements (background clutter), and to reproduce it with bold lines offering high visual contrast to the background. Where feasible, enlargers may meet the need.

Curricular Adaptations

Research addressing format Two major federally funded research projects have been undertaken specifically addressing special formats for social studies curricular materials. The first was the development

of an Aural Study System by the American Printing House for the Blind (Morris, Nolan, & Brothers, 1973; Morris, Nolan, & Phelps, 1973). The second was MAVIS by the Social Science Education Consortium (Social Studies Materials, 1981).

Because many legally blind students depend upon recorded text materials (whether recorded by personal readers, volunteers, or professionals) and because learning achieved through listening is known to compare favorably with that achieved through reading, an Aural Study System was designed and evaluated. It contained three coordinated components and met the specified study needs of visually handicapped students previously identified (Morris & Nolan, 1970; Nolan, 1966)--a major one being the need to locate specific places (e.g., pages) within a recorded text. The content for the experimental materials was a unit on Latin America taken from a world history textbook. The components of the system were (a) an indexed record, (b) a specially designed record player (the forerunner of the Indexing Cassette Player used with The World Book Encyclopedia, Recorded Edition) enabling rapid search and precise identification of pages, and (c) a braille supplement containing the kinds of information visually handicapped students had stated they preferred in written form. The supplement contained a title page, a table of contents, an outline of headings from the text, spelling lists, study questions, all graphics, the unit activities, references, and an index. Evaluation included two phases and results showed all

blind students used as subjects were able to learn to operate the Aural Study System and were able to use it to accomplish typical study tasks.

The MAVIS project had as a purpose the adaptation of "social studies curriculum materials for use by visually handicapped students in grades K-6 in both integrated and self-contained classrooms" (Social Studies Materials, 1981, p. 1). The materials included adaptations of two 1-6 textbook series, two nontext kits (one for primary students, one for elementary), and a fifth grade component of a career awareness program. Teacher and student materials were prepared with the latter being readied in braille, large print, and recorded forms. The most important conclusion regarding application of results was that "the resulting materials are well-liked and usable by teachers and students, but such a literal adaptation is too expensive and too quickly dated to be feasible on any broad-scale basis" (Social Studies Materials, 1981, p. 53).

The results of these studies offer both useful information and a frustrating encounter with reality for teachers of visually handicapped students. On the positive side, the results indicate students can learn social studies from a variety of media, particularly if information to which they may need to refer is readily available in written form. This is extremely important when the breadth and scope of potential required readings are considered. On the negative side, results indicate that needed materials are not likely to be

readily available when readings go beyond the few social studies series available in braille and large type.

The blind (tactual) student. The primary concern for teachers of students requiring tactile materials in teaching social studies is the provision of graphics in tactile form. As indicated by the research, a mere description is of limited usefulness. Consequently, it is essential that important graphic materials be presented in a form blind students can use, a tactile form. Additionally, many students feel it is helpful to have descriptions of the graphics to use with them. Teachers of social studies should arrange to have such graphics prepared to accompany any material used that does not come with them. One source is Recording for the Blind, Inc. (215 East Fifty-eight Street, New York, New York 10022). If feasible, and when requested, this organization will provide a supplement of raised line drawings to accompany their recorded texts. In addition to needing tactile graphics, students using recorded materials may find it helpful to have their teachers provide for them, in written form, such things as spelling lists, study questions, and important references.

Two pervasive concerns relating to tactile graphics are their design and use. Information and tools are available for the creation of legible, well designed graphics by teachers and volunteers. The people responsible for making them should invest the little additional time required to learn how to, to assure that the considerable time

needed in actually making tactile graphics results in useful products. The other concern is that students be instructed how to use tactile graphics. At a minimum they should be taught to be analytical, systematic, and thorough in their approach and instructed how to track lines and analyze shapes by looking for distinctive features (Nolan, 1976).

The low vision student. Many low vision students will use a large type edition or recorded text for social studies. Just as blind students using recorded materials may find it helpful to have their teachers provide, in written form, spelling lists, study questions, important references, and other information to which they may need to refer, so may the low vision student. Those using recorded materials will also need access to print graphics. Often those in the regular print edition of the text will be usable. If not, they may need to be enlarged or redrawn for greater clarity, or both. As with tactile readers, low vision students should be instructed to be analytical, systematic, and thorough in using graphics.

Special Social Studies Materials

For use with students.

- Introduction to Map Study I--(APH)--teaches that maps stand for real things
- Introduction to Map Study II--(APH)--teaches 30 fundamental map reading concepts related to location and direction
- Landform Models and Doobie the Brain--(APH)--teaches 40 basic geographic concepts (Miller, 1982a)

- Simplified Continental Relief Map Cassette Programs-- (APH)--self-instructional audio programs including geography, special features, and socio-historic information about each of the six continents (Miller, 1982b)
- Tangible Graphs--(APH)--teaches skills and concepts needed to use tactile graphs (Barth, 1983a)

For the teacher.

- Social Studies for the Visually Impaired Child: MAVIS Sourcebook 4 (Singleton, 1979)--(SSEC)--includes suggestions for teachers
- Resources for Teaching Social Studies in the Mainstreamed Classroom: MAVIS Sourcebook 6 (Singleton & Leslie, 1979)--(SSEC)--includes suggestions for sources of materials
- Tactile Graphics Kit--(APH)--a kit of specialized tools for making foil masters for thermoforming (Barth, 1982)
- Tactile Graphics Kit Guidebook (Barth, Berlá, & Davis, 1981 -- (APH)--provides information on how to design and make tactile graphics and how to teach tactual readers to use them (available with Tactile Graphics Kit and separately)

Sources.

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 Louisville, Kentucky 40206

SSEC Social Science Education Consortium, 855 Broadway,
Boulder, Colorado 80302

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